

# PATENT ABSTRACTS OF JAPAN

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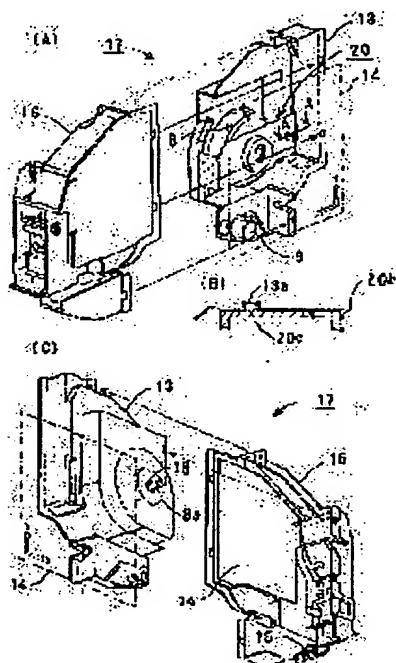
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## (54) AIR CONDITIONER



### (57)Abstract:

**PROBLEM TO BE SOLVED:** To provide an air conditioner provided with an electrical equipment module that is a unitized electrical equipment part.

**SOLUTION:** An electrical equipment part 10 comprises an electrical equipment case 13 provided with the first mounting part and the second mounting part mounting the first driving motor 8 and the second driving motor 9, respectively, and an electrical equipment cover 16 that is detachably attached to the electrical equipment case 13 in such a manner that it can be slid back and forth and provided with the first substrate 14 in the rear side of the first driving motor 8 parallel to it and the second substrate 15 in the vicinity of the second driving motor 9, respectively. It is unitized as an electrical equipment module 17 divided into the right and left.

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**CLAIMS**

**[Claim(s)]**

[Claim 1] Even if there are few bodies by which stop immobilization is carried out at the installation plate which fixed on the wall surface, in the front upper part inlet port To the air duct which prepares the outlet which equipped the front lower part with the back board of the vertical style, respectively, and connects said inlet port and said outlet In the air conditioner which prepares a heat exchanger and a cross-flow fan and comes to prepare the first drive motor which drives this cross-flow fan to this cross-flow fan's flank, the second drive motor which drives said back board of the vertical style, and electric equipment, respectively The electric equipment box where said electric equipment was equipped with the first attachment section and the second attachment section which attach said first drive motor and said second drive motor, respectively, It slides to this electric equipment box forward and backward, and it is covered removable. With this the first parallel substrate at the tooth back of said first drive motor The air conditioner characterized by coming to carry out unitization as an electronic-autoparts module which consisted of electrical lids equipped with the second substrate near said second drive motor, respectively, and was divided into right and left.

[Claim 2] The air conditioner according to claim 1 characterized by coming to consist of the first positioning section in which said first attachment section equips with the insertion hole which inserts in the driving shaft of said first drive motor, and holds and positions the appearance anterior part of this first drive motor, and a motor clamper attached in said electric equipment box so that the tooth-back section may be supported.

[Claim 3] The air conditioner according to claim 2 characterized by coming to consist of said motor clampers a supporter which supports the tooth-back section of said first drive motor, and the stop section prepared in the both sides of this supporter, and said electric equipment box corresponding to this.

[Claim 4] The air conditioner according to claim 3 characterized by coming to prepare the dowel corresponding to said nib in said electric equipment box while preparing a nib in said motor clamper near [ said ] the stop section.

[Claim 5] The air conditioner according to claim 4 characterized by said nib consisting of a burring hole.

[Claim 6] The air conditioner according to claim 1 characterized by coming to consist of the second positioning section which said second attachment section is equipped with the insertion hole which inserts in the driving shaft of said second drive motor, and holds and positions the appearance anterior part of this second drive motor, and the attachment section which was prepared near this second positioning section and equipped with the \*\*\*\* hole corresponding to the leg of said second drive motor.

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## DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the structure of the electronic-autoparts module which carried out unitization of the electric equipment to the detail more with respect to an air conditioner.

[0002]

[Description of the Prior Art] The stop section C by which the body D with which it comes to equip front-panel c equipped with the intake grill b at the anterior part of Base a was formed in the tooth-back upper part is stopped by the stop pawl B formed in the upper part of the installation plate A which fixed on the wall surface, and the air conditioner of the conventional wall type is fixed to it, as drawing 1 and drawing 5 show.

[0003] To the air duct which forms the outlet 2 which equipped the front upper part and the top face of said body D with inlet port 1, and equipped the front lower part with the back board group 3 of the right-and-left style, and the back board 4 of the vertical style, respectively, and connects said inlet port 1 and said outlet 2, Filter d The heat exchanger 6 in which equipped the lower part with the drain pan 5, and bending formation was carried out by anterior part heat exchanger 6a and posterior part heat exchanger 6b by side view at the letter of the reverse abbreviation for V characters, It was the configuration of having formed the cross-flow fan 7 and coming to prepare the first drive motor 8 which drives this cross-flow fan 7, the second drive motor 9 which drives said back board 4 of the vertical style, and electric equipment 10 in this cross-flow fan's 7 flank, respectively.

[0004] However, since said first drive motor 8 and said second drive motor 9 were the configuration attached in the tooth-back lower part of said electric equipment 10, it had the problem that the workability at the time of assembly was bad.

[0005] Moreover, since it was hard to take out the substrate which it had in said electric equipment 10 and which is not illustrated and maintenance nature was bad, while simplifying the structure of said electric equipment and enabling it to attach easily said first drive motor and said second drive motor, to enable it to take out the substrate in said electric equipment 10 easily was desired.

[0006]

[Problem(s) to be Solved by the Invention] In this invention, electric equipment aims at offering the air conditioner equipped with the electronic-autoparts module which comes to carry out unitization in view of the above-mentioned trouble.

[0007]

[Means for Solving the Problem] In order that this invention may solve the above-mentioned technical problem, even if there are few bodies by which stop immobilization is carried out at the installation plate which fixed on the wall surface, in the front upper part inlet port To the air duct which prepares the outlet which equipped the front lower part with the back board of the vertical style, respectively, and connects said inlet port and said outlet In the air conditioner which prepares a heat exchanger and a cross-flow fan and comes to prepare the first drive motor which drives this cross-flow fan to this cross-flow fan's flank, the second drive motor which drives said back board of the vertical style, and electric equipment, respectively The electric equipment box where said electric equipment was equipped with the first attachment section and the second attachment section which attach said first drive motor and said second drive motor, respectively, It slides to this electric equipment box forward and backward, it is covered removable, and it has composition by which unitization was carried out as an electronic-autoparts module which consisted of electrical lids equipped with the second substrate near said second drive motor, respectively, and was divided into right and left in this and the first parallel substrate at the tooth back of said first drive motor.

[0008] Moreover, said first attachment section is equipped with the insertion hole which inserts in the driving shaft of said first drive motor, and consists of the first positioning section which holds and positions the appearance anterior part of this first drive motor, and a motor clasper attached in said electric equipment box so that the tooth-back section may be supported.

[0009] Moreover, said motor clasper consists of a supporter which supports the tooth-back section of said first drive motor, and the stop section prepared in the both sides of this supporter, and said electric equipment box corresponding to this.

[0010] Moreover, while preparing a nib in said motor clasper near [ said ] the stop section, it has the composition of having formed the dowel corresponding to said nib in said electric equipment box.

[0011] Moreover, said nib has composition which consists of a burring hole.

[0012] Furthermore, said second attachment section is equipped with the insertion hole which inserts in the driving shaft of said second drive motor, and consists of the second positioning section which holds and positions the appearance anterior part of this second drive motor, and the attachment section which was prepared near this second positioning section and equipped with the \*\*\*\* hole corresponding to the leg of said second drive motor.

[0013]

[Embodiment of the Invention] Hereafter, the gestalt of operation of this invention is explained to a detail as an example based on a drawing. Drawing 1 is the sectional view of the air conditioner by this invention, drawing 2 is the decomposition perspective view of the air conditioner by this invention, and drawing 3 is the important section explanatory view of the air conditioner by this invention. The decomposition perspective view in which (A) shows the attachment condition of the first drive motor, the decomposition perspective view in which (B) shows the attachment condition of the second drive motor, and (C) are B view Figs. shown by (B), and drawing 4 is the decomposition perspective view of an electronic-autoparts module. (A) is drawing showing a first drive-motor and second drive motor attachment-side, (B) is an A-A sectional view shown by (A), and (C) is drawing showing a first substrate and second substrate attachment-side.

[0014] Body D consists of front-panel c which the air conditioner by this invention equipped the tooth-back upper part with the stop section C which is stopped by the stop pawl B of the installation plate A which fixed on the wall surface, and is fixed to it as drawing 1 shows, and was equipped with the intake grill b with which the anterior part of the base a to which the casing cover e which consists of a heat insulation member is joined, and this base a is equipped.

[0015] And it has composition in which said installation plate A served as said some of bases a, and the seal member E is made to be placed between the joints of these bases a and the installation plate A, and said base a and the metal mold for manufacture can be made to miniaturize by this now.

[0016] Inlet port 1 is formed in the front upper part and the top face of said body D, and the outlet 2 equipped with the back board group 3 of the right-and-left style and the back board 4 of the vertical style, respectively is formed in the front lower part.

[0017] In the air duct which connects said inlet port 1 and said outlet 2 The heat exchanger 6 in which equipped Filter d and the lower part with the drain pan 5, and bending formation was carried out by anterior part heat exchanger 6a and posterior part heat exchanger 6b by side view at the letter of the reverse abbreviation for V characters, The cross-flow fan 7 is formed one by one, it absorbs from said inlet port 1, and comfortable air conditioning is performed by sending out the air heat exchange was carried out [ air ] by said heat exchanger 6 from said outlet 2 to an air conditioned room-ed.

[0018] Here, the procedure in which said air-conditioner body D by this invention is assembled is explained based on drawing 2.

[0019] Said casing cover e in the both-sides section of said base a joined to the tooth back After supporting said cross-flow fan's 7 revolving shaft to revolve, enabling free rotation, the side plate f which equipped the tooth back with the stop section C stopped by the stop pawl B of said installation plate A is joined from the upper part. said outlet 2 by which supported the both-sides section of said heat exchanger 6, and continuation formation was carried out with this side plate f at the hypostatic region of said base a -- right and left -- wind direction -- plates 3 and the upper and lower sides -- wind direction -- a plate 4 is attached, respectively.

[0020] And next, electric equipment 10 is attached to said cross-flow fan's 7 flank.

[0021] The first drive motor 8 with which said electric equipment 10 drives said cross-flow fan 7 as drawing 3 (A) thru/or drawing 3 (B) show, The first attachment section 11 which attaches the second drive motor 9 which consists of a stepping motor which drives said back board 4 of the vertical style, and rotates at a predetermined include angle, respectively, As it slides to the electric equipment box 13 equipped with the second attachment section 12, and this electric equipment box 13 forward and backward, they are covered removable and drawing 4 (A) thru/or drawing 4 (B) show It consists of electrical lids 16 which were equipped with the first substrate 14 parallel to the tooth back of said first drive motor 8, and were equipped with the second substrate 15 near said second drive motor 9, and unitization is carried out as an electronic-autoparts module 17 divided into right and left.

[0022] Like the arrow head a shown by drawing 2, it comes to be able to make unreserved said first drive motor 8 which can release now the front face of said electric equipment box 13, a top face, and one side face, and was attached in said first attachment section 11 and said second attachment section 12, and said second

drive motor 9, and said electrical lid 16 becomes easy to maintain them by making it slide ahead. Moreover, also when attaching or removing said first drive motor 8 and said second drive motor 9, since these installation parts are unreserved, workability becomes good.

[0023] Moreover, when said electrical lid 16 is made to slide ahead and it is made to secede from said electric equipment box 13, said first substrate 14 and said second substrate 15 can be pulled out now together with said electrical lid 16, and it becomes easy to maintain them.

[0024] Moreover, since the power cord of said first drive motor 8 and said second drive motor 9 is taken about together and has come be made, it is convenient.

[0025] Next, it equips with said front-panel c which equipped the front face with the aforementioned intake grill b, and equipped the anterior part of said base a with said filter d inside, said stop section C with which the stop pawl B of the installation plate A which fixed on the wall surface of an air conditioned room-ed was equipped at the tooth back of said side plate f is stopped, and installation immobilization of said body D is carried out.

[0026] In addition, as drawing 3 (A) shows, said first attachment section 11 is equipped with the insertion hole 18 which inserts in driving shaft 8a of said first drive motor 8, and consists of the first positioning section 19 which holds and positions the appearance anterior part of this first drive motor 8, and a motor clamper 20 attached in said electric equipment box 13 so that the tooth-back section may be supported.

[0027] Moreover, as drawing 4 (A) and drawing 4 (B) show, it is said stop section 20b. It is nib 20c to said nearby motor clamper 20. Dowel 13a prepared in said electric equipment box 13 while preparing Said nib 20c Since it is made to carry out an insertion stop, said motor clamper 20 for supporting the tooth-back section of said first drive motor 8 can be fixed correctly and firmly.

[0028] Moreover, said nib 20c Since it has composition which consists of a burring hole as drawing 4 (B) shows, it is said dowel 13a. It can stop correctly so that it may not be made to break away.

[0029] Moreover, the second positioning section 22 in which said second attachment section 12 equips with the insertion hole 21 which inserts in driving shaft 9a of said second drive motor 9, and holds and positions the appearance anterior part of said second drive motor 9 as drawing 3 (B) and drawing 3 (C) show, It is prepared near this second positioning section 22, and consists of the attachment sections 24 equipped with the \*\*\*\* hole 23 corresponding to the leg of said second drive motor 9.

[0030] Thereby, where said second drive motor 9 is positioned in said second positioning section 22, it becomes the configuration screws on said screw-thread hole 23 \*\*\*\* which inserted in the mounting hole of the leg of said second drive motor 9, and it enabled it to fix, and the alignment at the time of thread fastening becomes easy, and can improve workability.

[0031]

[Effect of the Invention] As explained above, according to this invention, electric equipment serves as an air conditioner equipped with the electronic-autoparts module which comes to carry out unitization.

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## DESCRIPTION OF DRAWINGS

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[Brief Description of the Drawings]

[Drawing 1] It is the sectional view of the air conditioner by this invention.

[Drawing 2] It is the decomposition perspective view of the air conditioner by this invention.

[Drawing 3] (A) is the decomposition perspective view showing the attachment condition of the first drive motor, it is the important section explanatory view of the air conditioner by this invention, and (C) is [ (B) is the decomposition perspective view showing the attachment condition of the second drive motor, and ] B

view Fig. shown by (B).

[Drawing 4] With the decomposition perspective view of an electronic-autoparts module, (A) is drawing showing a first drive-motor and second drive motor attachment-side, (B) is an A-A sectional view shown by (A), and (C) is drawing showing a first substrate and second substrate attachment-side.

[Drawing 5] It is the transparency perspective view of the air conditioner by the conventional example.

[Description of Notations]

A Installation plate

B Stop pawl

C Stop section

D Air-conditioner body

E Seal member

Base

b Intake grill

c Front panel

d Filter

e Casing cover (heat insulation member)

f Side plate

1 Inlet Port

2 Outlet

3 Back Board Group of the Right-and-Left Style

4 Back Board of the Vertical Style

5 Drain Pan

6 Heat Exchanger

6a Anterior part heat exchanger

6b Posterior part heat exchanger

7 Cross-Flow Fan

8 First Drive Motor

8a Driving shaft

9 Second Drive Motor

9a Driving shaft

10 Electric Equipment

11 First Attachment Section

12 Second Attachment Section

13 Electric Equipment Box

13a Dowel

14 First Substrate

15 Second Substrate

16 Electrical Lid

17 Electronic-Autoparts Module

18 Insertion Hole

19 First Positioning Section

20 Motor Clamper

20a Supporter

20b Stop section

20c Dowel hole

21 Insertion Hole

22 Second Positioning Section

23 Screw-Thread Hole

24 Attachment Section

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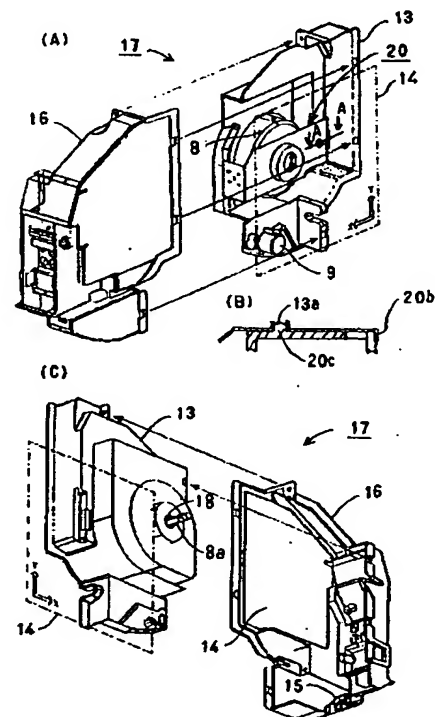
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(54) 【発明の名称】 空気調和機

(57) 【要約】

【課題】 電装部がユニット化されてなる電装品モジュールを備えた空気調和機を提供する。

【解決手段】 電装部10を、第一駆動モータ8および第二駆動モータ9を夫々取り付ける第一取付部および第二取付部を備えた電装箱13と、同電装箱13に前後にスライドして着脱可能に被着され、前記第一駆動モータ8の背面にこれと平行な第一基板14を、前記第二駆動モータ9の近傍に第二基板15を夫々備えた電装蓋16とで構成され左右に分割された電装品モジュール17としてユニット化した。



## 【特許請求の範囲】

【請求項1】 壁面に固着された据付板に係止固定される本体の少なくとも前面上部に吸込口を、前面下部に上下風向板を備えた吹出口を夫々設け、前記吸込口と前記吹出口とを結ぶ空気通路に、熱交換器とクロスフローファンとを設け、同クロスフローファンの側部に、同クロスフローファンを駆動する第一駆動モータと、前記上下風向板を駆動する第二駆動モータと、電装部とを夫々設けてなる空気調和機において、

前記電装部が、前記第一駆動モータおよび前記第二駆動モータを夫々取り付ける第一取付部および第二取付部を備えた電装箱と、同電装箱に前後にスライドして着脱可能に被着され、前記第一駆動モータの背面にこれと平行な第一基板を、前記第二駆動モータの近傍に第二基板を夫々備えた電装蓋とで構成され左右に分割された電装品モジュールとしてユニット化されてなることを特徴とする空気調和機。

【請求項2】 前記第一取付部が、前記第一駆動モータの駆動軸を挿通する挿通孔を備え、同第一駆動モータの外形前部を収容し位置決めする第一位置決め部と、背面部を支持するように前記電装箱に取り付けられるモータクランパとで構成されてなることを特徴とする請求項1に記載の空気調和機。

【請求項3】 前記モータクランパが、前記第一駆動モータの背面部を支持する支持部と、同支持部の両側およびこれに対応する前記電装箱に設けられた係止部とで構成されてなることを特徴とする請求項2に記載の空気調和機。

【請求項4】 前記係止部近傍の前記モータクランパにダボ穴を設ける一方、前記電装箱に、前記ダボ穴に対応するダボを設けてなることを特徴とする請求項3に記載の空気調和機。

【請求項5】 前記ダボ穴が、バーリング穴からなることを特徴とする請求項4に記載の空気調和機。

【請求項6】 前記第二取付部が、前記第二駆動モータの駆動軸を挿通する挿通孔を備え、同第二駆動モータの外形前部を収容し位置決めする第二位置決め部と、同第二位置決め部の近傍に設けられ、前記第二駆動モータの脚部に対応するねじ孔を備えた取付部とで構成されてなることを特徴とする請求項1に記載の空気調和機。

## 【発明の詳細な説明】

【0001】

【発明の属する技術分野】本発明は、空気調和機に係わり、より詳細には、電装部をユニット化した電装品モジュールの構造に関する。

【0002】

【従来の技術】従来の壁掛け式の空気調和機は、例えば図1と、図5とで示すように、壁面に固着された据付板Aの上部に設けられた係止爪Bに、ベースaの前部に吸込グリルbを備えた前面パネルcが装着されてなる本体

Dが、その背面上部に設けられた係止部Cに係止され固定されるようになっていた。

【0003】前記本体Dの前面上部および上面には吸込口1を、前面下部には左右風向板群3および上下風向板4を備えた吹出口2を夫々設け、前記吸込口1と前記吹出口2とを結ぶ空気通路に、フィルタdと、下部にドレンパン5を備え、前部熱交換器6aおよび後部熱交換器6bにより側面視で逆略V字状に折曲形成された熱交換器6と、クロスフローファン7とを設け、同クロスフローファン7の側部には、同クロスフローファン7を駆動する第一駆動モータ8と、前記上下風向板4を駆動する第二駆動モータ9と、電装部10とを夫々設けてなる構成であった。

【0004】しかしながら、前記第一駆動モータ8および前記第二駆動モータ9が、前記電装部10の背面下部に取り付けられる構成であるため組立時の作業性が悪いという問題を有していた。

【0005】また、前記電装部10内に備えた図示しない基板を取り出しにくいためメンテナンス性が悪いことから、前記電装部の構造を簡素化し、前記第一駆動モータおよび前記第二駆動モータを容易に取付できるようにするとともに、前記電装部10内の基板を容易に取り出せるようにすることが望まれていた。

【0006】

【発明が解決しようとする課題】本発明においては、上記の問題点を鑑み、電装部がユニット化されてなる電装品モジュールを備えた空気調和機を提供することを目的とする。

【0007】

【課題を解決するための手段】本発明は、上記課題を解決するため、壁面に固着された据付板に係止固定される本体の少なくとも前面上部に吸込口を、前面下部に上下風向板を備えた吹出口を夫々設け、前記吸込口と前記吹出口とを結ぶ空気通路に、熱交換器とクロスフローファンとを設け、同クロスフローファンの側部に、同クロスフローファンを駆動する第一駆動モータと、前記上下風向板を駆動する第二駆動モータと、電装部とを夫々設けてなる空気調和機において、前記電装部が、前記第一駆動モータおよび前記第二駆動モータを夫々取り付ける第一取付部および第二取付部を備えた電装箱と、同電装箱に前後にスライドして着脱可能に被着され、前記第一駆動モータの背面にこれと平行な第一基板を、前記第二駆動モータの近傍に第二基板を夫々備えた電装蓋とで構成され左右に分割された電装品モジュールとしてユニット化された構成となっている。

【0008】また、前記第一取付部が、前記第一駆動モータの駆動軸を挿通する挿通孔を備え、同第一駆動モータの外形前部を収容し位置決めする第一位置決め部と、背面部を支持するように前記電装箱に取り付けられるモータクランパとで構成されている。



【0009】また、前記モータクランパが、前記第一駆動モータの背面部を支持する支持部と、同支持部の両側およびこれに対応する前記電装箱に設けられた係止部とで構成されている。

【0010】また、前記係止部近傍の前記モータクランパにダボ穴を設ける一方、前記電装箱に、前記ダボ穴に対応するダボを設けた構成となっている。

【0011】また、前記ダボ穴が、バーリング穴からなる構成となっている。

【0012】更に、前記第二取付部が、前記第二駆動モータの駆動軸を挿通する挿通孔を備え、同第二駆動モータの外形前部を収容し位置決めする第二位置決め部と、同第二位置決め部の近傍に設けられ、前記第二駆動モータの脚部に対応するねじ孔を備えた取付部とで構成されている。

【0013】

【発明の実施の形態】以下、本発明の実施の形態を図面に基づいた実施例として詳細に説明する。図1は本発明による空気調和機の断面図であり、図2は本発明による空気調和機の分解斜視図であり、図3は本発明による空気調和機の要部説明図で、(A)は第一駆動モータの取付状態を示す分解斜視図、(B)は第二駆動モータの取付状態を示す分解斜視図、(C)は(B)で示すB矢視図であり、図4は電装品モジュールの分解斜視図で、

(A)は第一駆動モータおよび第二駆動モータの取付側を示す図であり、(B)は(A)で示すA-A断面図であり、(C)は第一基板および第二基板の取付側を示す図である。

【0014】本発明による空気調和機は、図1で示すように、壁面に固着された据付板Aの係止爪Bに係止され固定される係止部Cを背面上部に備え、断熱部材からなるケーシングカバーeが接合されるベースaと、同ベースaの前部に装着される吸込グリルbを備えた前面パネルcとで本体Dが構成されている。

【0015】そして、前記ベースaの一部を前記据付板Aが兼ねた構成となっており、これらベースaと据付板Aとの接合部にシール部材Eを介在させており、これによって前記ベースaおよび製作用の金型を小型化させることができるようになっている。

【0016】前記本体Dの前面上部および上面には吸込口1が設けられ、前面下部には左右風向板群3および上下風向板4を夫々備えた吹出口2が設けられている。

【0017】前記吸込口1と前記吹出口2とを結ぶ空気通路には、フィルタdと、下部にドレンパン5を備え、前部熱交換器6aおよび後部熱交換器6bにより側面視で逆略V字状に折曲形成された熱交換器6と、クロスフローファン7とが順次設けられており、前記吸込口1から吸い込まれ、前記熱交換器6により熱交換された空気が前記吹出口2から被空調室に送出されることによって快適な空気調和が行われる。

【0018】ここで、本発明による前記空気調和機本体Dが組み立てられる手順について、図2に基づいて説明する。

【0019】前記ケーシングカバーeが背面に接合された前記ベースaの両側部に、前記クロスフローファン7の回転軸を回転自在に軸支したのち、前記据付板Aの係止爪Bに係止される係止部Cを背面に備えた側板fを上部から接合し、同側板fによって前記熱交換器6の両側部を支持し、前記ベースaの下位部に連続形成された前記吹出口2に、左右風向板群3と、上下風向板4とを夫々組み付けるようになっている。

【0020】そして次に、前記クロスフローファン7の側部に、電装部10が組み付けられるようになっている。

【0021】前記電装部10は、図3(A)乃至図3

(B)で示すように、前記クロスフローファン7を駆動する第一駆動モータ8と、前記上下風向板4を駆動し所定の角度に回転するステッピングモータからなる第二駆動モータ9とを夫々取り付ける第一取付部11と、第二取付部12とを備えた電装箱13と、同電装箱13に前後にスライドして着脱可能に被着され、図4(A)乃至図4

(B)で示すように、前記第一駆動モータ8の背面に平行な第一基板14を備え、前記第二駆動モータ9の近傍に第二基板15を備えた電装蓋16とで構成され、左右に分割された電装品モジュール17としてユニット化されている。

【0022】前記電装蓋16は、図2で示す矢印aのように、前方にスライドさせることにより前記電装箱13の前面、上面および側面を解放できるようになっており、前記第一取付部11および前記第二取付部12に取り付けられた前記第一駆動モータ8および前記第二駆動モータ9を剥き出しにできるようになってメンテナンスしやすくなる。また、前記第一駆動モータ8および前記第二駆動モータ9を取り付け、または取り外す場合にも、これらの取り付け箇所が剥き出しになっているので作業性は良好となる。

【0023】また、前記電装蓋16を前方にスライドさせて前記電装箱13から離脱させた際、前記第一基板14および前記第二基板15を、前記電装蓋16と一緒に引き出すことができるようになってメンテナンスしやすくなる。

【0024】また、前記第一駆動モータ8および前記第二駆動モータ9の電源コードを一緒に引回しできるようになっているので便利である。

【0025】次に、前記ベースaの前部に、前記吸込グリルbを前面に備え、内側に前記フィルタdを備えた前記前面パネルcを装着して、被空調室の壁面に固着された据付板Aの係止爪Bに、前記側板fの背面に備えた前記係止部Cに係止して前記本体Dが据付固定されるようになっている。

【0026】なお、前記第一取付部11は、図3(A)で示すように、前記第一駆動モータ8の駆動軸8aを挿通す

る挿通孔18を備え、同第一駆動モータ8の外形前部を収容し位置決めする第一位置決め部19と、背面部を支持するように前記電装箱13に取り付けられるモータクランパ20とで構成されている。

【0027】また、図4(A)および図4(B)で示すように、前記係止部20b 近傍の前記モータクランパ20にダボ穴20c を設ける一方、前記電装箱13に設けられたダボ13a を前記ダボ穴20c に挿入係止するようにしているので、前記第一駆動モータ8の背面部を支持するための前記モータクランパ20を正確に、且つ強固に固定できるようになる。

【0028】また、前記ダボ穴20c が、図4(B)で示すようにバーリング穴からなる構成になっているので、前記ダボ13a を離脱させないように正確に係止できる。

【0029】また、図3(B)および図3(C)で示すように、前記第二取付部12が、前記第二駆動モータ9の駆動軸9aを挿通する挿通孔21を備え、前記第二駆動モータ9の外形前部を収容し位置決めする第二位置決め部22と、同第二位置決め部22の近傍に設けられ、前記第二駆動モータ9の脚部に対応するねじ孔23を備えた取付部24とで構成されている。

【0030】これにより、前記第二駆動モータ9が、前記第二位置決め部22で位置決めされた状態で、前記第二駆動モータ9の脚部の取付孔を挿通したねじを前記ねじ孔23に螺着し固定できるようにした構成となり、ねじ締め時の位置合わせが容易になって作業性を向上できる。

【0031】

【発明の効果】以上説明したように、本発明によれば、電装部がユニット化されてなる電装品モジュールを備えた空気調和機となる。

【図面の簡単な説明】

【図1】本発明による空気調和機の断面図である。

【図2】本発明による空気調和機の分解斜視図である。

【図3】本発明による空気調和機の要部説明図で、(A)は第一駆動モータの取付状態を示す分解斜視図であり、(B)は第二駆動モータの取付状態を示す分解斜視図であり、(C)は(B)で示すB矢視図である。

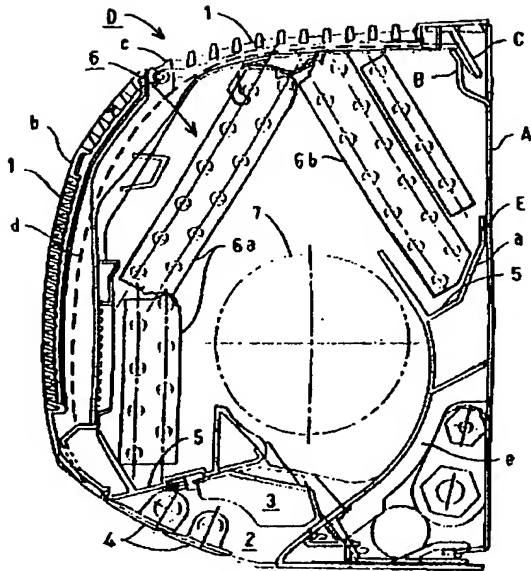
【図4】電装品モジュールの分解斜視図で、(A)は第一駆動モータおよび第二駆動モータの取付側を示す図であり、(B)は(A)で示すA-A断面図であり、(C)は第一基板および第二基板の取付側を示す図である。

【図5】従来例による空気調和機の透過斜視図である。

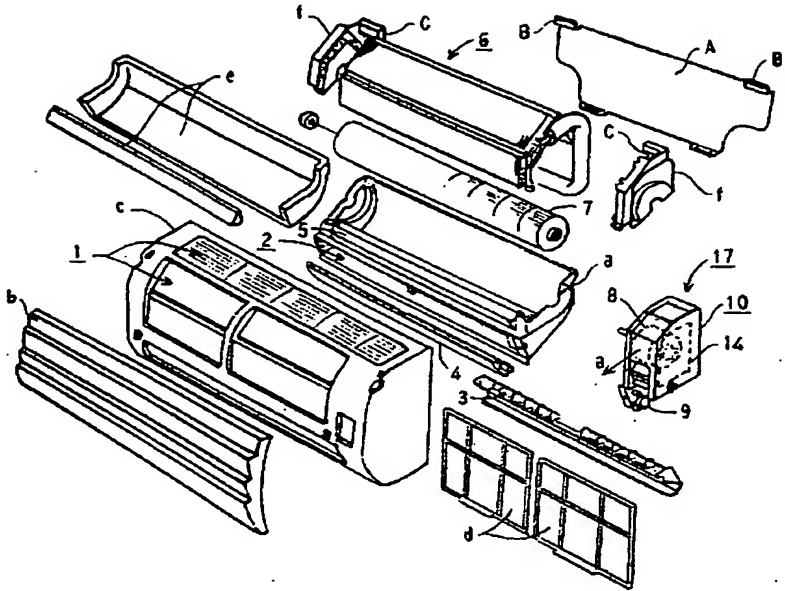
【符号の説明】

- A 据付板
- B 係止爪
- C 係止部
- D 空気調和機本体
- E シール部材
- a ベース
- b 吸込グリル
- c 前面パネル
- d フィルタ
- e ケーシングカバー（断熱部材）
- f 側板
- 1 吸込口
- 2 吹出口
- 3 左右風向板群
- 4 上下風向板
- 5 ドレンパン
- 6 熱交換器
- 6a 前部熱交換器
- 6b 後部熱交換器
- 7 クロスフローファン
- 8 第一駆動モータ
- 8a 駆動軸
- 9 第二駆動モータ
- 9a 駆動軸
- 10 電装部
- 11 第一取付部
- 12 第二取付部
- 13 電装箱
- 13a ダボ
- 14 第一基板
- 15 第二基板
- 16 電装蓋
- 17 電装品モジュール
- 18 挿通孔
- 19 第一位置決め部
- 20 モータクランパ
- 20a 支持部
- 20b 係止部
- 20c ダボ孔
- 21 挿通孔
- 22 第二位置決め部
- 23 ねじ孔
- 24 取付部

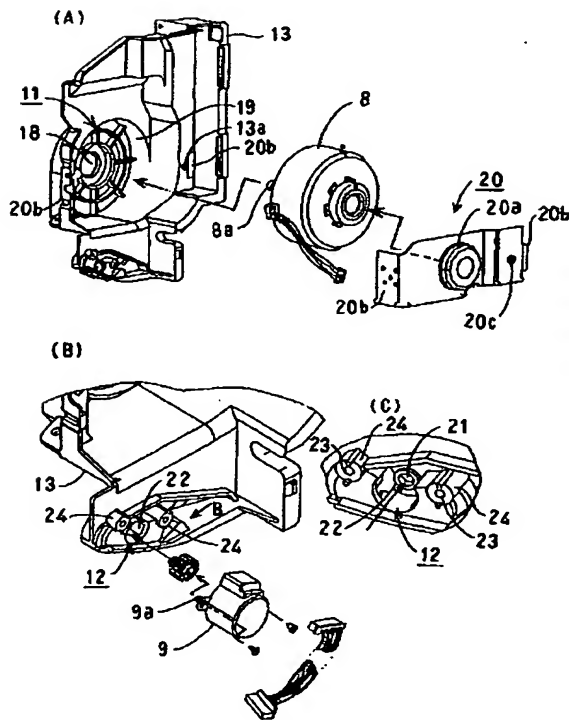
【図1】



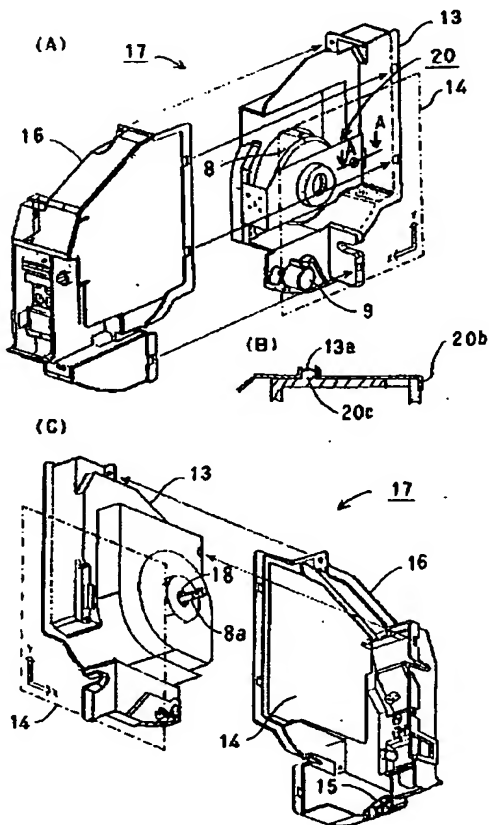
【図2】



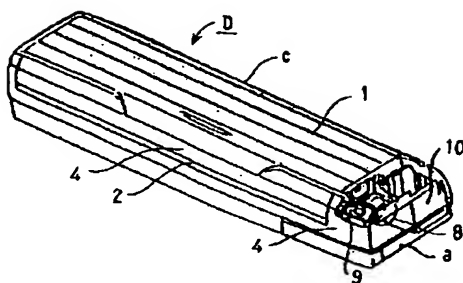
【図3】



【図4】



【図5】



フロントページの続き

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